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ABSTRACT

This product development report is one of 21 such reports, each dealing with the developmental history of a recent educational product. Discussed here is the Developmental Economic Education Program (DEEP), which is focused on developing economic education programs to improve the understanding of economics in the nation's schools. The target population consists of all students capable of learning in typical school settings, kindergarten through grade 12. The rationale and objectives of DEEP are presented; personnel involved in school districts and procedures of implementing the program are outlined. Organization, format, and content of DEEP materials are discussed with an emphasis on continuing adaptation and development of materials. A history of development and key personnel gives background in some detail regarding original planning, modifications, and attention to priorities. Diffusion and adoption of the materials are discussed. Tables reveal test results before and after materials usage in Pittsburgh schools. Summarizing information regarding the program for product dissemination, evaluation procedures and an overview concludes this report. An appendix provides a list of other products for which Product Development Reports have been prepared. (JMB)

ED 067319

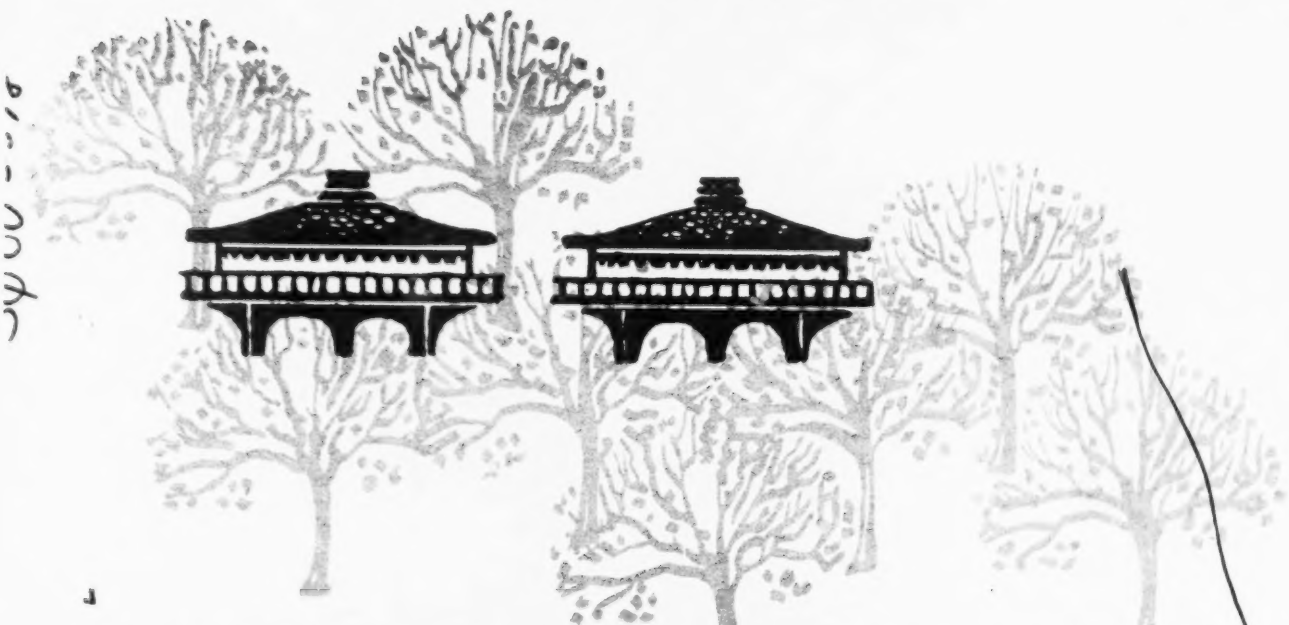
PRODUCT DEVELOPMENT REPORT NO. 16

DEVELOPMENTAL ECONOMIC EDUCATION PROGRAM (DEEP)

DEVELOPED BY THE JOINT COUNCIL ON ECONOMIC EDUCATION,
IN COOPERATION WITH ITS AFFILIATED STATE COUNCILS
AND CENTERS FOR ECONOMIC EDUCATION

January, 1972

Contract No. OEC-0-70-4892



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DEVELOPMENTAL ECONOMIC EDUCATION PROGRAM (DEEP)

DEVELOPED BY THE JOINT COUNCIL ON ECONOMIC EDUCATION, IN COOPERATION WITH ITS AFFILIATED STATE COUNCILS AND CENTERS FOR ECONOMIC EDUCATION

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American Institutes for Research
in the Behavioral Sciences

Palo Alto, California

January, 1972

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U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Office of Program Planning and Evaluation

PREFACE

This product development report is one of 21 such reports, each dealing with the developmental history of a recent educational product. A list of the 21 products, and the agencies responsible for their development, is contained in Appendix A to this report. The study, of which this report is a component, was supported by U.S. Office of Education Contract No. OEC-0-70-4892, entitled "The Evaluation of the Impact of Educational Research and Development Products." The overall project was designed to examine the process of development of "successful educational products."

This report represents a relatively unique attempt to document what occurred in the development of a recent educational product that appears to have potential impact. The report is based upon published materials, documents in the files of the developing agency, and interviews with staff who were involved in the development of the product. A draft of each study was reviewed by the developer's staff. Generally, their suggestions for revisions were incorporated into the text; however, complete responsibility for interpretations concerning any facet of development, evaluation, and diffusion rests with the authors of this report.

Although awareness of the full impact of the study requires reading both the individual product development reports and the separate final report, each study may be read individually. For a quick overview of essential events in the product history, the reader is referred to those sections of the report containing the flow chart and the critical decision record.

The final report contains: a complete discussion of the procedures and the selection criteria used to identify exemplary educational products; generalizations drawn from the 21 product development case studies; a comparison of these generalizations with hypotheses currently existing in the literature regarding the processes of innovation and change; and the identification of some proposed data sources through which the U.S. Office of Education could monitor the impact of developing products. The final report also includes a detailed outline of the search procedures and the information sought for each case report.

Permanent project staff consisted of Calvin E. Wright, Principal Investigator; Jack J. Crawford, Project Director; Daniel W. Kratochvil, Research Scientist; and Carolyn A. Morrow, Administrative Assistant. In addition, other staff who assisted in the preparation of individual product reports are identified on the appropriate title pages. The Project Monitor was Dr. Alice Y. Scates of the USOE Office of Program Planning and Evaluation.

Sincere gratitude is extended to those overburdened staff members of the 21 product development studies who courteously and freely gave their time so that we might present a detailed and relatively accurate picture of the events in the development of some exemplary educational research and development products. If we have chronicled a just and moderately complete account of the birth of these products and the hard work that spawned them, credit lies with those staff members of each product development team who ransacked memory and files to recreate history.

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PRODUCT DESCRIPTION

Product Characteristics

Name

Developmental Economic Education Program (DEEP).

Developer

Joint Council on Economic Education, in cooperation with its Affiliated State Councils and Centers for Economic Education.

Distributor

Joint Council on Economic Education, 1212 Avenue of the Americas, New York, New York 10036.

Focus

The focus of DEEP is on developing economic education programs to improve the understanding of economics in the nation's schools.

Grade Level

Kindergarten through grade 12.

Target Population

The target population consists of all students capable of learning in typical school settings.

Rationale for Product

Long Range Goals of Product

The long range goal of DEEP is the development of economic literacy among our citizens. In the free society and economic system of this country the decisions of individual citizens, acting independently and collectively, determine the direction of the economy. The developers make the assumption that if these decisions are informed and wise, the nation will prosper; if they are based on emotion, prejudice and ignorance, the nation will stagnate and collapse. Entrusted with the responsibility of preparing students to enter the adult world of citizenship and the world of work, schools should provide programs of economic education which reflect a sustained and continuous effort to assist students to develop a basic understanding of economics so that they

will be able to make those economic decisions that foster best the attainment of the American goals of economic growth, stability, freedom and justice.

Objectives of Product

Recent studies have suggested the reasons for the lack of good instruction in economic education in the schools are: inadequately prepared teachers, lack of appropriate teaching materials, and lack of interactions between teachers and the economic profession. The Developmental Economic Education Program seeks to meet these deficiencies by establishing partnership among school systems, universities, state councils for economic education, and the Joint Council. The general objectives of DEEP are to:

1. Build economics into existing school curricula at all grade levels.
2. Improve teacher preparation in economics.
3. Develop and evaluate new teaching materials for economics for all grade levels.
4. Identify diverse models of curriculum revision in economic education.
5. Disseminate the results of the experiment

Philosophy and Theories Supporting Product

The developers felt that economic understanding is important if one is to meet his responsibility as a citizen and as a participant in the complex private enterprise of the country. He must act as his own economist--in his private life and as a citizen--and both he and the community will be better served if he is well informed and can think clearly and objectively about economic questions. For many years economic understanding has been a cited objective of education in American schools and some efforts have been made to develop more adequate programs of economic education. However, there was no widespread effort to give economic education a higher priority in elementary and secondary schools. The Joint Council on Economic Education decided to play the major role as organizer, stimulator, and coordinator in this effort to develop better economic education programs in our schools through a systems approach to curriculum change.

The general philosophy behind DEEP and theories supporting the program are suggested by the following assumptions made by the Joint Council when they began development of DEEP:

1. Economics is not a policy, but a set of basic principles that serve as guidelines for the analysis of economic problems. It is a discipline that relies heavily on the art of investigation.

2. The most important step toward understanding in economics is the replacement of emotional, unreasoned judgments by objective, rational analyses.

3. Economic education programs must be an integral part of school curricula and not just another course. The learning sequence should include both elementary and secondary grades. The school experience should reflect a continuity rather than a fragmented series of exposures.

4. The teacher is the key to success in curriculum change. However, synthesis and integration of knowledge can be achieved by a planned curriculum, not by the individual teacher alone.

5. Schools lack the financing, expertise, and other resources to undertake curriculum changes in economic education.

6. Competent coordinators with released time and adequate resources are needed for a successful program.

7. Curriculum change needs strong local support and any program for national dissemination should have the flexibility to accommodate a wide variety of school organization patterns.

8. The inadequate preparation of teachers in economics and the consequent lack of the very understanding they must seek to impart to their students is the major problem in developing a sound economics program in schools.

9. Evaluation should be more than subjective judgments; it must go hand-in-hand with innovation. Change requires a rationale but also substantiation based on fact.

Description of Materials

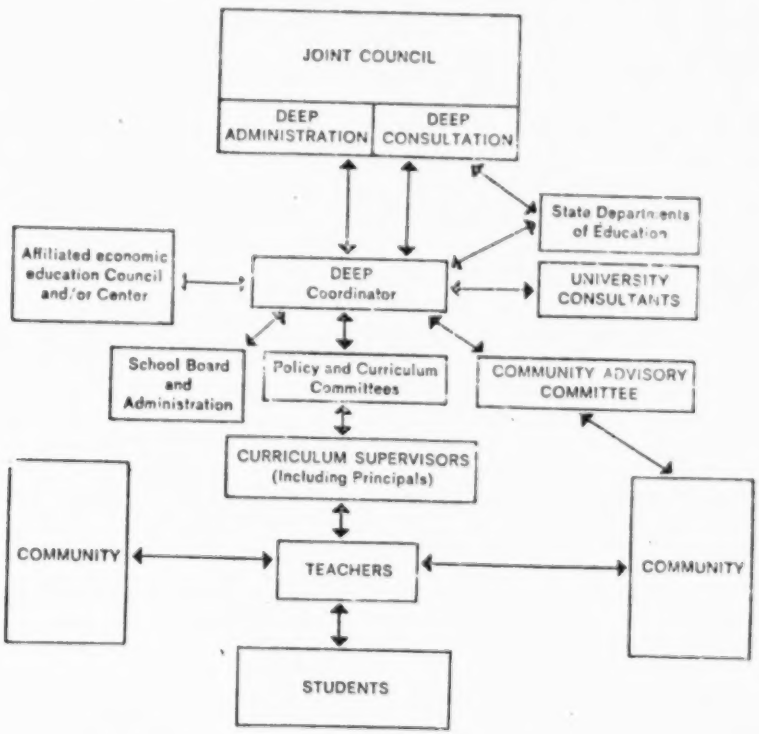
Organization of Program

DEEP is a process for effecting curriculum change in school systems. The organization of DEEP in a school system is illustrated in Figure 1. The Joint Council provides each participating school system with the Handbook for Curriculum Change, consultant services, exchange of information, and a library of materials. Affiliated Councils usually provide each DEEP school system with consultant services, financial assistance, in-service programs, and curriculum materials.

Each DEEP school system has a DEEP coordinator. His function is chiefly administrative in bridging the gap between school personnel, council staff, university scholars, and specialists in economic education. His major responsibility is to plan, organize and manage the economic education program in his school system.

Figure 1

The Structure of DEEP in a School System



Effective committees are often crucial to the success of DEEP. Most DEEP schools have three committees: a Policy Committee, a Curriculum Committee, and a Community Advisory Committee. The Policy Committee makes appropriate recommendations when confronted with major issues. The Policy Committee members are usually appointed by the school superintendent. The group should be kept small but key personnel who influence the direction of the program are to be represented. The Curriculum Committee's major responsibility is materials assessment, selection and development. A typical

Curriculum Committee includes: a curriculum director or assistant superintendent in charge of instruction, elementary and secondary curriculum supervisors, classroom teachers at all grade levels and subject areas affected by the program, department chairmen, librarians, DEEP coordinator, and guidance counselors. The function of the Community Committee is to interest the public in economic education programs in the schools and sometimes provides extra funds, materials and speakers. This committee should represent the broad spectrum of community interest.

• Each DEEP school system has consultants. The function of consultants is to: help DEEP coordinators diagnose management problems associated with goals, strategy, and technical aspects of the program; recommend optimum solutions to these problems; and help to implement them when necessary. Also, communications channels play an important part in the DEEP program's efforts to keep participants and the community informed on DEEP's progress.

Organization, Format, and Content of DEEP Materials

Guides for teachers and learning materials for students are important products of the DEEP effort. The materials cover various topics in economics and curriculum change. Each school system in DEEP examines the available DEEP materials and uses them as they fit the particular school system's program. The materials are in various formats: films, student readings, teacher guides, etc. The following is a list of DEEP materials published for national dissemination. There are many more materials developed by DEEP schools than those listed, and the list is constantly changed as new materials of better quality replace some of those now in print.

GENERAL

Handbook for Curriculum Change. This handbook provides those with leadership roles in local school systems with functional resources that will help make curriculum change a more orderly process. The Handbook is divided into two sections: Guidelines and Appendices. The Guidelines specify the kinds of decisions that must be made to achieve meaningful curriculum change, and the Appendices provide acceptable tools to carry out the tasks.

DEEP 1969: Perspectives on a 5-Year Experiment in Curriculum Change. A report evaluating DEEP for the educational community.

Economics in the Curriculum: Developmental Economic Education Program. A teacher's guide to economic ideas and concepts, and their grade placement. Includes a revision of DEEP Part 1 and DEEP Part 2 originally published by the Joint Council in 1964.

Study Materials for Economic Education in the Schools, Reports of Materials Evaluation Committees to the Joint Council on Economic Education. An annotated bibliography of selected supplementary materials in economic education.

Policies for Economic Stability. Original draft prepared as basic discussion paper for a round table of economists.

Games and Simulations for Teaching Economics. An annotated bibliography which includes the latest games and simulations related to the teaching of economics. Articles and references about the use and theory of games.

Suggestions for a Basic Economic Library. Annotated bibliography to be used as a guide in building an economics library for school, classroom or individual.

Economic Education in the Schools. Outlines what economics should be taught in schools. Report of the National Task Force on Economic Education.

PERSONAL ECONOMICS

This is a series of publications that were classroom tested during 1967-1970 for use in improving consumer competence through the schools.

1. Teaching Personal Economics in the Social Studies Curriculum
2. Teaching Personal Economics in the Home Economics Curriculum
3. Teaching Personal Economics in the Business Curriculum
4. Teaching a Course in Personal Economics
5. Economics and the Consumer

ECONOMIC TOPICS

Collected articles on contemporary economic issues by leading economists.

1. The Economics of Pollution, Economic Topic Series 1969-1970
2. Economic Stabilization Policies, Economic Topic Series 1970
3. Taxation in the United States, Economic Topics Series 1968-1969

ECONOMIC EDUCATION EXPERIENCES

Economic Education Experiences of Enterprising Teachers. A series prepared by the Joint Council and the Calvin K. Kazanjian Economic Foundation, Inc., to report annually on the entries submitted in the Kazanjian Foundation Awards Program for the Teaching of Economics (Volume 1-8).

ELEMENTARY

1. The Childs World of Choices
2. Student Activity Book for the Child's World of Choices and Teacher's Guide

3. Learning Economics Through Children's Stories
4. Teacher's Guide to Economics, Grade 1
5. Teacher's Guide to Economics, Grade 2
6. Teacher's Guide to Economics, Grade 3
7. Teacher's Guide to Economics, Grade 4
8. Teacher's Guide to Economics, Grade 5
9. Teacher's Guide to Economics, Grade 8
10. Economics in the Elementary School: Why, What, Where?
11. Economic Education: A Supplement to the Social Studies Guide, Kindergarten, First Grade, Second Grade.
12. Economic Education: A Supplement to the Social Studies Guide, Third Grade, Fourth Grade
13. Economic Education for Washington Schools, Kindergarten Through Grade Six

JUNIOR HIGH

1. The Economics of Poverty and Teacher's Manual
2. Manpower and Economic Education: Opportunities in American Economic Life and Teacher Manual
3. Economic Education for Washington Schools, Grades 7-9
4. Minneapolis Trades with Japan, A Supplement to 7th Grade Geography
5. Economics Readings for Students of Ninth Grade Social Science and Teacher's Manual
6. Economics Readings for Students of Eighth Grade United States History and Teacher's Manual
7. Economic Themes in United States History, A Resource Bulletin for Teachers

SENIOR HIGH

1. Teaching Personal Economics in the Social Studies Curriculum
2. Economic Education for Washington Schools, Grades 10-12
3. Readings in Economics for 11th Grade Students of United States History, A Unit on the Great Depression and Teacher Manual
4. Readings in Economics for 12th Grade Students of American Democracy and Teacher's Manual
5. Manpower and Economic Education: Opportunities in American Economic Life and Teacher Manual
6. The Economics of Poverty and Teacher Manual
7. The Economic Effects on Education, A Supplement for Secondary School Social Studies
8. The Industrial Revolution, A Supplement for Grade 10 World History
9. Economic Expansion in the United States Since 1865, A Supplement for Grade 11 U.S. History
10. Readings in Economics for 10th Grade Students of World Culture and Teacher's Manual
11. The Coming of the Great Depression, A Supplement to Grade 11 U.S. History
12. A Resource Document for a High School Course in the United States Economy
13. Study Guide for Selected Sixty-Session Series of the American Economy TV Films

14. Economics Themes in United States History, A Resource Bulletin for Teachers
15. Suggested Procedures and Resources for a Minimum Course in Economics
16. Teacher's Guide to World Trade
17. Primers of Economics (Series)

BUSINESS EDUCATION

1. Syllabus for Teaching Economics in the High School General Buine Business Course
2. Teacher's Guide to Economics in the Business Education Curriculum

FILMSTRIPS

1. The United States Economy in Action
2. The Role of Capital Investment
3. Our Growing America
4. The Role of Consumers
5. The Role of Our Labor Force--The Pulse of the Nation
6. The Role of the Commercial Banking System
7. The Role of the Federal Reserve System--The Credit Market

TESTS

1. Primary Test of Economic Understanding (Grades 2-3). An evaluation instrument to measure students' growth and assess effectiveness of existing materials, teaching strategies and economic education programs. There is an accompanying Examiner's Manual, test booklets and key sheets.

2. Test of Elementary Economics (Grades 4-6). An experimental evaluation instrument to measure learning of economic concepts at intermediate level. Manual includes 40 multiple-choice questions with rationale for each, technical normative data, answer sheet and scoring key.

3. Test of Understanding in College Economics (TUCE). An instrument for evaluating introductory economics courses. Available in two parts, Part I (macroeconomics) and Part II (microeconomics).

4. Test of Economic Understanding. Evaluates student understanding of basic economic concepts deemed essential for good citizenship by the National Task Force on Economic Education. Before and after tests for students in secondary schools and colleges.

5. Test of Understanding in Personal Economics. Evaluative instrument normed in classes of social studies, business and home economics students at ninth and twelfth grade levels.

Cost of Materials to User

It is difficult to estimate the cost of DEEP to user because there is a wide range of practices among DEEP participating school systems. The cost to each system will depend upon the extent of program desired. Some coordinators are full-time, others part-time. Teacher training programs also reflect diverse content patterns and wide ranges of enrollment. The range of grade level coverage and the extent of materials development greatly vary among DEEP school systems. The DEEP curriculum change process is provided free of charge by the Joint Council. The cost of published DEEP materials per pupil is minimal because most of the materials can be reused. Some program costs are borne by the affiliated Council.

Procedures for Using Product

Program Activities

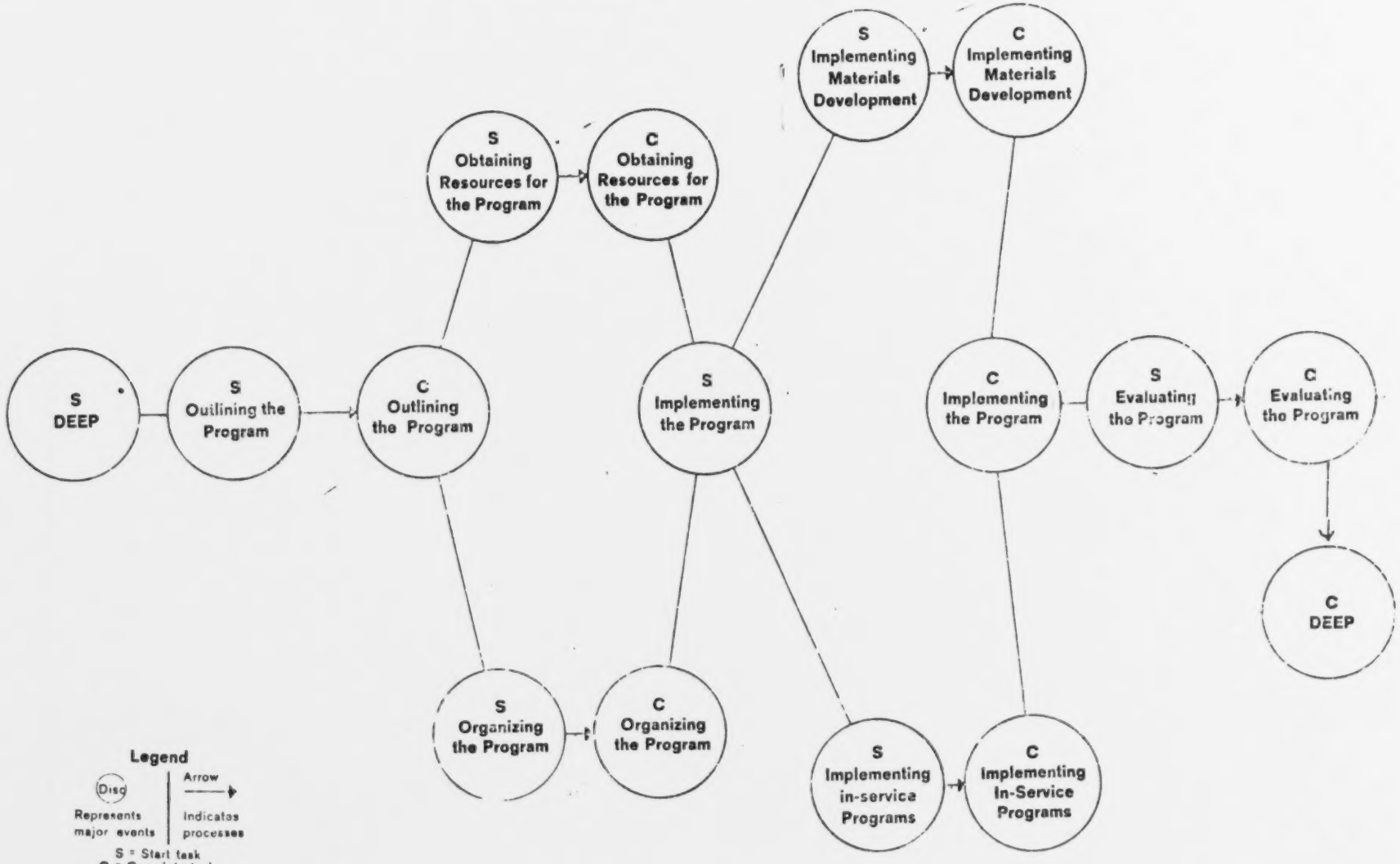
Figure 2 shows the major activities of the DEEP school system. Each school system in DEEP must develop its own program action plan based on local needs and priorities.

The following steps, defining the scope and intensity of the project, should be considered by the curriculum administrator and his colleagues who have planning responsibility.

1. Develop rationale for including economic education in the curriculum.
2. Determine subject areas and grade levels to be included in the school's economic education program.
3. Determine required scope of teacher in-service training.
4. Identify teaching guides which will need revision or development.
5. Determine economic education materials required for the program.
6. Decide upon administrative procedures to implement the plan.
7. Determine staff and budgetary resources required to implement the plan.
8. Develop tentative time chart to complete steps of program.
9. Determine program goals and establish procedures to gauge the impact on the curriculum.
10. Develop plan to insure long-run continuance of curriculum innovations.

Figure 2

School System's Experience in DEEP



After the planning is completed, the school system has the opportunity to receive aid from: (a) local school boards, (b) affiliated Councils on Economic Education, (c) Centers for Economic Education, (d) Joint Council on Economic Education, (e) state departments of education, (f) private community organizations, and (g) federal funding agencies and national foundations. Also, the school system has to select the DEEP Coordinator; establish the Policy Committee, Curriculum Committee, and Community Committee; choose consultants; and establish communication channels.

The next step is to implement the materials development plan and in-service teacher training program. Implementing materials development includes: (a) developing an overview, (b) examining student and teacher materials, (c) modifying materials as needed, (d) preparing new materials where necessary, and (e) trying out and evaluating tentative classroom materials. Implementing the in-service programs includes: (a) recruiting teachers, (b) choosing instructors, (c) conducting programs, and (d) evaluating course effectiveness.

After the DEEP project is implemented in a school system, evaluation of the program should be followed to measure degree of accomplishment of the DEEP activities as well as its impact on student learning in economics.

Provisions for Parent/Community Involvement

No specific provisions for parent involvement have been made in DEEP. However, DEEP calls for an extensive community involvement through its Community Advisory Committee. A typical DEEP Community Committee includes: superintendent, representatives from business, labor, industry, agriculture, PTA, Chamber of Commerce, service clubs, and newspapers.

Special Physical Facilities or Equipment

No special facilities or equipment are required for utilizing the program. While some special equipment or facilities are necessary in the development of curriculum materials or adoption of materials available, DEEP itself does not necessitate the use of special facilities or equipment. Some space may be needed for storing the basic library materials for DEEP.

ORIGINS

Key Personnel

M. L. Frankel, President and Director of the Joint Council on Economic Education, originated the Developmental Economic Education Program. He has been active in the economic education movement since its beginning and has been the driving force behind DEEP programs from the beginning, in 1964.

Dr. Frankel began his career in his own community as a social studies teacher and later became Head of the Social Studies Department of Clifford J. Scott High School, East Orange, New Jersey. At the same time he was President of the New Jersey Council for the Social Studies; a member of the Executive Board of the Middle States Council for the Social Studies; a member of the Advisory Board of Social Education, a publication of the National Council of the Social Studies; and a member of the Membership Committee of the NCSS. He was a visiting lecturer at the New Jersey State Teachers Colleges and Rutgers University, and served as Associate Study Director of the New Jersey Citizens' Conference.

Dr. Frankel has written extensively for educational journals including Social Education, New Jersey Educational Review, Clearing House, and publications of the National Council of the Social Studies, National School Boards Association, National Science Teachers Association, American Library Association, The National Association of Secondary School Principals, and the Atlantic Information Centre for Teachers. He is a member of the Editorial Board of The Journal of Economic Education.

He is co-author of Teacher's Guide to the Use of Community Resources in Economic Education and author of A Teachers Guide for Studying Economic Factors and Relationships in the Local Community to Help High School Students Gain Better Understanding of the Structure and Functioning of the National Economy in a World Setting and The ABC's of Effective Economic Education, Georgia State College Distinguished Lecture Series. His book, Economic Education, has been published by the Center for Applied Research in Education, Inc.

Dr. Frankel served as a member of the National Task Force on Economic Education. The Task Force, appointed by the American Economic Association and sponsored by the Committee for Economic Development, completed a study to determine the "minimum understanding of economics essential for good

citizenship and attainable by high school students," which was published as Economic Education in the Schools. The Task Force also was the advisory group for the nationwide television course in economics for teachers, broadcast as the CBS "College of the Air" program for the academic year 1962-63.

At the beginning of DEEP, there were three other key personnel: John Maher, who was a Senior Economist and Director of DEEP; John Lawrence, who was Director of Curriculum; and S. Stowell Symmes, who was Curriculum Specialist for the project. Prior to his work with the Joint Council, Dr. Maher was Associate Professor of Economics at Oakland University in Rochester, Michigan. He also taught at Wesleyan University and DePauw University. His academic career was coupled with a diversity of projects in research, education, and government. While at Wesleyan, Professor Maher served as a Director of the College of Quantitative Studies, an interdisciplinary venture applying modern quantitative methods to learning and teaching. He prepared and appeared on portions of a television series, "The Economics of American History." He also served as economist with the U.S. Department of Labor, Division of Wages and Industrial Relations, and as coordinator of a manpower study for the Oakland County (Michigan) Planning Commission. He was with DEEP for five years and now is a professor of economics at Connecticut State College.

Dr. Lawrence brought to the project a background in English, social studies, and school administration. Prior to his work with the Joint Council, he taught at high schools and served as Director of the Division of Secondary Education (1948-64). of the Los Angeles County Schools. Dr. Lawrence augmented his wide experience within the Los Angeles County School System with consurrent, adjunct professorships at Long Beach State College, the University of Southern California and the University of California, teaching courses in secondary education, methodology, and curriculum.

Dr. Lawrence was not new to the field of economic education, having been a member of the Materials Evaluation Committee in 1961 and again in 1963. Earlier, he was Coordinator for the Southern California Council on Economic Education. In 1958, after the Council's employment of a full-time director, Dr. Lawrence was elected a member of its Board of Trustees. He was with DEEP for two years and is now a professor of education at Sonoma State College, California.

Mr. S. Stowell Symmes joined the Joint Council as Curriculum Specialist in 1965 and since 1967 has served as Director of Curriculum for DEEP. Prior to joining the Joint Council he was at Montclair State College, Upper Montclair, New Jersey, as Assistant Professor of Social Studies and Field Director for the New Jersey Council on Economic Education and the Center for Economic Education. He was also a teacher and Chairman of the Social Studies Department at Watchung Hills Regional High School, New Jersey. He has spoken to many groups on various aspects of economic education and has served as consultant to school systems in many states. He is the key person behind the Cooperating Schools Program which is an extension of the original DEEP Program. Mr. Symmes' recent publications include: Primary Economics, 4 sound filmstrips (series advisor), Learning About Why We Must Choose (co-authored with John E. Maher), Handbook on Curriculum Change, and DEEP 1969: Perspectives on a 5-Year Experiment in Curriculum Change (co-author).

In addition, many teachers, curriculum specialists, evaluators, and economists contributed to the planning and material development and participated in the tryouts of materials and in the implementation of DEEP in school systems.

Sources and Evolution of Ideas

In the late 1940's, several professors at the New York University and people who were with the public schools were very much concerned because they felt that we were moving into an economic century, and that the schools did not have adequate economic education programs and were turning out students unprepared for this kind of world. So they initiated conversations with people from all walks of life--people from education, business, and labor. Out of this came a strong consensus that something should be done.

Dr. Frankel was one of the original group that initiated the movement. The first thing they tried was a summer workshop, sponsored by New York University, supported by the Committee for Economic Development (CED). At the end of the three-week workshop, the educators came up with a resolution which called for the establishment of an organization that would be in a position to assist schools in economic education. In 1949 the Joint Council on Economic Education was founded. As a non-profit, non-partisan organization, the Joint Council was organized to develop economic programs in the curriculum

of the nation's schools. See the Major Event Flow Chart (Figure 3) for a listing of the major activities (beginning with the founding of the Joint Council on Economic Education) in the history of DEEP.

The developers describe the major events which led to DEEP in one of their publications, "DEEP 1969":

> The Joint Council's first major effort to accomplish its objectives began in the Fall of 1955 when curriculum development projects in economic education were initiated in the seven school systems of Akron, Ohio; Fort Dodge, Kansas; Kalamazoo, Michigan; Minneapolis, Minnesota; Portland, Oregon; Ridgewood, New Jersey; and University City, Missouri.
>
> The rationale behind this mix of geographical distribution and size was to gain insights into curriculum development and provide the basis for future programming. The Joint Council also hoped to establish common curriculum development principles which could be applied by any of the nation's school systems.
>
> Prior to 1955, most school systems ignored economic education. Moreover, there was general misunderstanding of the real meaning of economics. Schools emphasized descriptions of <u>things</u>, not <u>analysis</u>. Memorization of facts was the rule, rather than the understanding of concepts and the development of critical thinking. In the face of all this, the 1955 experiment was limited to a three-year period. The Joint Council's available program resources were small. Most of the burden for development was carried by the school systems. Fortunately, the administrators of selected systems had a progressive philosophy of education, encouraging innovation and modern curriculum development.
>
> Analysis of the 1955-1958 experiment established the . . . guidelines for the Joint Council's future program plans. . . . Procedures were tested and reviewed with an eye to future experimentation. Needs were recognized. The Joint Council recognized that when these needs were fulfilled, schools would be in a position to move forward with more assurance in the difficult job of curriculum redevelopment. It was also obvious that future work with the schools themselves was a priority for the Joint Council to provide leadership in curriculum development.
>
> Priorities were established to guide the logistics of further experimentation. The Joint Council received support and assistance from the American Economic

Association and the Committee for Economic Development, and launched a series of studies and programs in 1960 that had a profound effect in shaping the future course of economic education.

Also in 1960, the American Economic Association appointed a National Task Force on Economic Education to find out what economic training was needed to equip high school graduates for good citizenship. A year's study produced Economic Education in the Schools, recommending the minimum economic knowledge every high school graduate needed. The Committee for Economic Development issued a policy statement supporting this report. . . .

In 1961 and 1963, a National Commission appointed by the Joint Council and the American Economic Association evaluated fugitive (supplementary) materials to assist teachers in finding suitable teaching aids for classroom use. The Commission's first report, Study Materials for Economic Education in the Schools, appeared in 1961. The Joint Council distributed the report and a complete kit of recommended materials free to all high schools in communities of above 10,000 population.

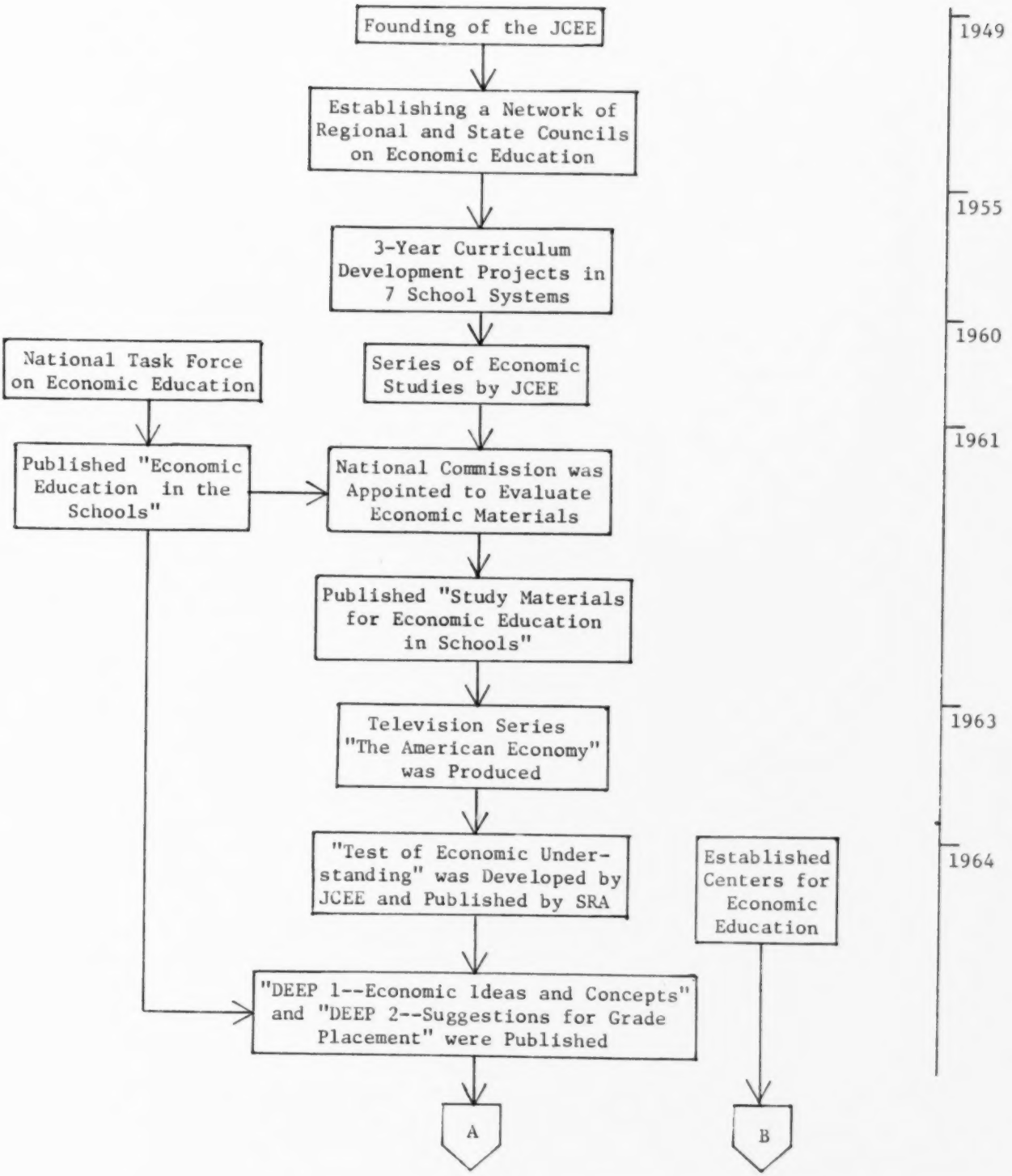
In 1963, Learning Resources, Inc., produced a television series, "The American Economy.". . . The Joint Council and the American Economic Association sponsored the program, designed to overcome lack of economic understanding among teachers, a barrier to the revision of school programs. Thousands of teachers had the opportunity to secure a full year's course in economics through the 400 universities and colleges offering the course for credit. . . .

The Joint Council appointed another national commission in 1963 to assist high school teachers in measuring their own teaching effectiveness. Two tests were produced in 1964, providing a diagnostic instrument to be used in experimentation.

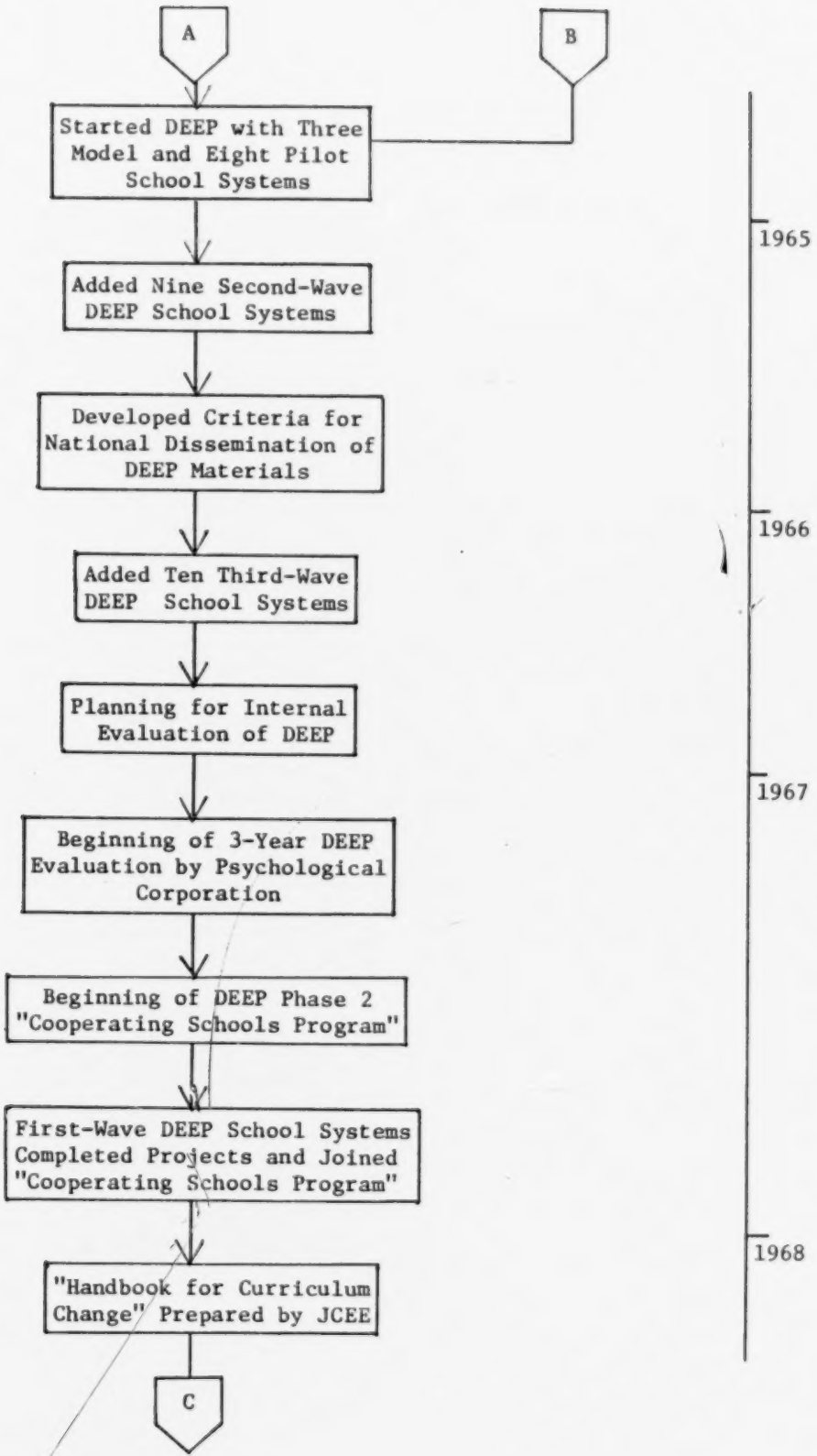
Finally, in 1964, to simplify the teacher's efforts in curriculum design, a National Commission appointed by the Joint Council produced DEEP I, Economic Ideas and Concepts, and DEEP II, Suggestions for Grade Placement and Development of Economic Ideas and Concepts. DEEP I spelled out, in simple terms, the ideas and concepts emphasized by the Task Force Report. DEEP II provided the teacher with illustrations at every grade level for applying these ideas and concepts to the curriculum.

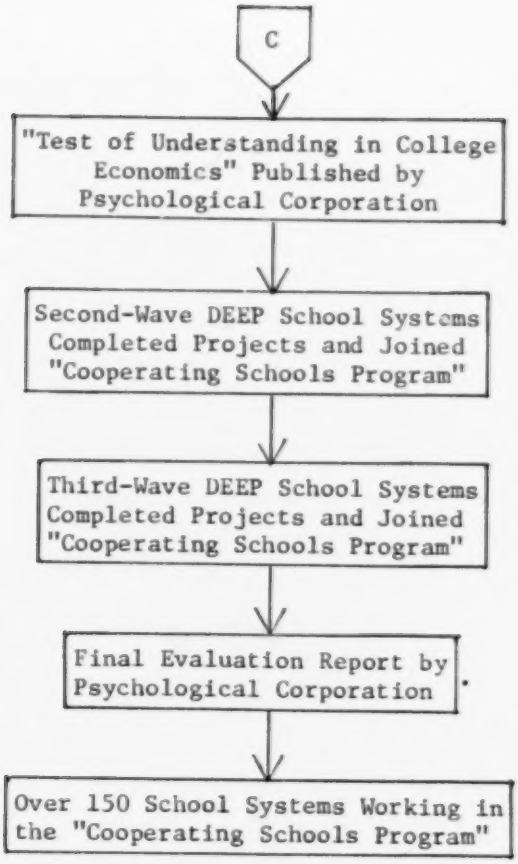
Figure 3

Major Event Flow Chart


Founding of the JCEE
1949
Establishing a Network of Regional and State Councils on Economic Education
1955
3-Year Curriculum Development Projects in 7 School Systems
1960
National Task Force on Economic Education
Series of Economic Studies by JCEE
1961
Published "Economic Education in the Schools"
National Commission was Appointed to Evaluate Economic Materials
Published "Study Materials for Economic Education in Schools"
1963
Television Series "The American Economy" was Produced
1964
"Test of Economic Understanding" was Developed by JCEE and Published by SRA
Established Centers for Economic Education
"DEEP 1--Economic Ideas and Concepts" and "DEEP 2--Suggestions for Grade Placement" were Published
A
B

17


A
B
Started DEEP with Three Model and Eight Pilot School Systems
Added Nine Second-Wave DEEP School Systems
Developed Criteria for National Dissemination of DEEP Materials
Added Ten Third-Wave DEEP School Systems
Planning for Internal Evaluation of DEEP
Beginning of 3-Year DEEP Evaluation by Psychological Corporation
Beginning of DEEP Phase 2 "Cooperating Schools Program"
First-Wave DEEP School Systems Completed Projects and Joined "Cooperating Schools Program"
"Handbook for Curriculum Change" Prepared by JCEE
C
1965
1966
1967
1968


C
"Test of Understanding in College Economics" Published by Psychological Corporation
Second-Wave DEEP School Systems Completed Projects and Joined "Cooperating Schools Program"
Third-Wave DEEP School Systems Completed Projects and Joined "Cooperating Schools Program"
Final Evaluation Report by Psychological Corporation
Over 150 School Systems Working in the "Cooperating Schools Program"
1969
1970

> The stage was then set in 1964 for the Joint Council to launch a five-year experimental program, the Developmental Economic Education Program (DEEP). Capitalizing on its earlier experience and using the new logistics, (the) purpose was to develop prototype kindergarten through twelfth grade economic education programs [pp. 10-12].

Funding for Product Development

The Joint Council expenditures for DEEP during the five years amounted to $2 million. The area councils and the participating school systems provided funds far exceeding the Joint Council expenditure. All the project funds were contributed from private sources, including foundations, business, labor, agriculture, and educational organizations.

PRODUCT DEVELOPMENT

Management and Organization

The Developmental Economic Education Program was and still is located at the Joint Council on Economic Education in New York City. The Joint Council is an independent, non-profit, non-partisan educational organization incorporated in 1949 to encourage, improve, coordinate, and service the economic education movement. Members of its Board of Trustees represent all sectors of the economy. Financial support comes from foundations, business, organized labor, farm groups, and individuals.

During the development phase of DEEP the Council organized its staff to provide the necessary leadership and service to the schools engaged in DEEP programs. Three to four members of the staff were assigned to the responsibilities of project director, curriculum specialist, and curriculum director. In addition, six regional representatives of the Joint Council were assigned to assist the schools as visiting consultants.

To supplement the resources of the Joint Council, a network of affiliated Councils functioning at the state level and Centers for Economic Education on college and university campuses worked with the DEEP schools. The Psychological Corporation in New York served as outside evaluator, and the Center for Instructional Research and Curriculum Evaluation (CIRCE) at the University of Illinois, Urbana, served as consultant for the Psychological Corporation.

Original Development Plan

As originally proposed in 1964, DEEP was an experimental program to develop prototype kindergarten through twelfth grade economic education programs. By 1964, as a result of the Joint Council's activities, many new economic education tools were available to provide bases for action programs in the schools. Since the Joint Council believed these basic tools would be used widely once their effectiveness was demonstrated in action programs, it planned to devote a major portion of its energies to intensive cooperation with selected groups of school systems for curriculum development, through teacher education and the development of study materials.

From the beginning, the program emphasized a decentralized approach that respected and depended upon local responsibility and action. A two-pronged effort was planned: The Joint Council would cooperate intensively and directly with three "model" school systems over a three-year period, and it would cooperate with an additional 27 "pilot" school systems which would undertake curriculum development programs in cooperation with affiliated state councils and centers for economic education. In these "pilot" programs, the Joint Council was to provide leadership to nine school systems during the first year, move on to assist another nine school systems the next year, and then on to another nine the third year.

The Joint Council made the following commitments to the three model school systems:

1. An outright grant to each of the model schools of $35,000 a year for a period of three years: a total of $105,000. The salary for the resident economist is included in this grant. This economist will be selected by the "model" school systems in conjunction with the affiliated Council in their area and the JCEE. The remainder of the grant will be spent for such purposes as purchasing audio-visual and other materials, writing, consulting assistance, and preparation of teaching aids.

2. Two members of the JCEE staff--the Senior Economist and the Director of Curriculum--will each devote a month of time in serving as consultants with each of the "model" school systems in the course of each year.

3. Other members of the JCEE staff and regional representatives, as appropriate occasions arise, will visit the "model" school systems to contribute certain competencies helpful to the schools on this project.

4. The JCEE will be responsible for providing a central library of economic education materials for each of the "model" school systems.

5. Prior to the fall of 1964, the JCEE will assemble for a period of time a group of economists and school personnel who are highly experienced in economic education. They will be assigned the task of developing suggestions for scope and sequence arrangements of economic content which might be covered in an education program of this sort. This exploratory report will be made available to "model" schools.

6. Copies of the National Task Force Report, Economic Education in the Schools, and Study Materials in Economic Education will be made available to the "model" schools as needed by those working on the project.

7. The JCEE will provide a set of the 60-session films of "The American Economy" TV series for priority use in in-service work with teachers in the "model" school systems. Accompanying these films will be 100 sets of reading material for the teachers who participate in the in-service program in each of the school systems.

8. It is planned that student materials in the areas of problems of democracy, United States history, general business, and civics will be developed by teams under JCEE sponsorship. Schools in the project will have access to use and test those materials which they feel fit the needs of the programs they are developing.

9. At least once a year, the JCEE will bring together the coordinators of the various schools in the project for sessions to exchange information and consider activities of mutual concern.

10. The JCEE will be responsible for disseminating the materials developed by the school systems and for maintaining a flow of information resulting from the work carried on in the project.

The affiliated Council made the following commitments to the model school system in its respective area:

1. An outright grant to the "model" school system of $10,000 per year for a period of three years, a total of $30,000.

2. Staff and consultant time provided as required by the project and as determined by the affiliated Council and the "model" school system.

In turn, each of the "model" school systems committed itself to fulfilling these requirements:

1. Assignment of a full-time coordinator to the school staff with the competence necessary to carry through this project successfully for the three-year period. The resident economist, provided through the JCEE grant, will be assigned to work with the coordinator and school personnel.

2. Sufficient secretarial help, office space, and office supplies for the coordinator and the resident economist.

3. Released time of school personnel as required in the plans developed by the school system for carrying out the project.

4. The development of a research design for evaluating the project. (The cooperating universities will, of course, work with school staffs in developing such designs.)

5. Periodic reporting on the progress of the project to the JCEE offices and a detailed report at the end of the three-year period.

6. The establishment of a Policy Committee which would include representatives from the school system, one or more economists from cooperating universities and colleges, the resident economist, the coordinator, the JCEE representative, the affiliated Council representative, and such other persons as thought advisable to have on such a committee.

7. The appointment of a curriculum committee consisting of representatives from the grade levels and subject areas to be included in the project.

8. The establishment of a community advisory committee consisting of a cross-section of economic and educational interests. This could well be a group selected from the affiliated Council membership.

9. If deemed necessary, a survey and an evaluation of the existing economic education emphases in the existing curriculum of the school system.

10. Materials developed by the school system will be made available for distribution and use by other school systems as promptly as feasible.

The commitments of the Joint Council and its affiliated councils to the pilot school systems were similar to those of the three model school systems, except that financial assistance and consultant services from the Joint Council would not be as great and intensive support from the Joint Council would be limited to the first year of each pilot program. In the second and third years of the program, affiliated state councils in the areas

were to assume full responsibility for completing the program in cooperation with the school systems and participating Centers for Economic Education. The pilot schools' commitment to the Joint Council and its affiliated Council were similar to those of model school systems, except that assignment of a full-time coordinator and resident economist was not required.

The following steps were specified to be taken by the DEEP school systems for the three years of experiment:

First Year

1. A survey and an evaluation of the economic education emphases in the existing curriculum of the school system.

2. Survey of preparation in economics of the teaching staff.

3. Development of a planned program of the treatment of economics, K-12. DEEP: Part One will serve as a guide to scope and sequence.

4. Teacher in-service education program utilizing the TV series.

5. Selection of teachers for the development of classroom projects and experiments on each grade level and in selected secondary school courses.

6. Administering JCEE Test of Economic Understanding at 10th, 11th, and 12th grades at the beginning of the year.

7. Arranging for university cooperation-instructor for the in-service program, consultants for classroom experiments, organization of courses for future teachers, placement of practice teachers in economics.

8. Meetings of grade and subject level teachers in their respective groups for the purpose of reporting on and evaluating classroom projects.

9. Released time or summer employment for teachers to prepare for first draft of teachers guide for various grade and subject levels. Economic consultants to be involved.

10. Administering posttest to 12th graders and others as may be appropriate.

Second Year

1. Continue work on overall plan for school program (see 3 above).

2. Second year of in-service education program planned to extend and deepen teacher understandings.

3. Testing of first drafts of teachers guides by selected teachers throughout the grades in classroom experimentation.

4. Determination of the needs of teachers to successfully conduct classroom activities-student materials, charts, graphs, etc.

5. Establish writing teams to develop these materials.

6. Continue use of university consultants. Placing of practice teachers from the university program into the pilot schools for assistance and experience.

7. Continue meetings of grade level and subject committees.

8. Summer study for writing teams for review, re-editing, etc., of manuscripts. Selected consultants to be brought in as staff to work with teachers and university consultants.

9. Administer posttest to 12th graders and others as may be appropriate.

Third Year

1. Third year of in-service education program--introductory and advanced work.

2. System-wide testing of grade level and subject level guides throughout the school system.

3. Use of first drafts of manuscripts prepared for students in actual classroom situations for critical review and testing of charts, graphs, and other materials developed for teacher use.

4. Grade level and subject level meetings continued for receiving suggestions for revision of both the teachers guides and the student materials.

5. Final determination of school system-wide planned program of instruction in economics, K-12.

6. Administer posttest (JCEE) to students in the 12th grade, late in the spring, for comparative purposes with their 10th grade level of achievement.

7. Publish student materials and teachers guides.

Modifications of Original Development Plan

The original development plan was followed closely. The original objectives of the program remained constant. However, some modifications were made. In 1964 eight pilot school systems joined DEEP instead of the nine pilot school systems originally planned for that year. Nine school systems entered the program in 1965 and ten additional school systems were added in 1966. This brought the total to 30 systems as planned: 27 pilot and three model school systems.

In the beginning the Joint Council viewed DEEP primarily as an experiment to develop curriculum materials and to train teachers. But, as the program moved forward, it became evident that the procedures of revising curriculum were more important than any specific outcome from materials development or teacher training programs.

For the pilot school systems, the Joint Council planned to provide leadership during the first year of their three-year project, then the area council was to take complete charge for the next two years. However, some area councils failed to meet their commitment and the Joint Council had to take continuing responsibility.

The original development plan required an evaluation of DEEP impact by each school system. It was found that most of the school systems did not have the research capability to collect, process, and analyze evaluative data. Therefore, evaluation by school system was encouraged but not required during the three-year experiment. Also, the original plan for K-12 curriculum development in each school system had to be scaled down because of the lack of time and resources in school systems.

Actual Procedures for Product Development

Development

Over the first three years (1964-1967), 29 school systems were phased into the program. The following school systems entered the program in September 1964 as the model schools.

Contra Costa County Schools, California
Minneapolis Public Schools, Minnesota
Pittsburgh Public Schools, Pennsylvania

At the same time, eight school systems joined DEEP as pilot schools. They were:

Atlanta-Fulton County Public Schools, Georgia
Downey Unified School District, California
New Haven Public Schools, Connecticut
Omaha Public Schools, Nebraska
San Diego County Schools, California
Seattle Public Schools, Washington
Tulsa Public Schools, Oklahoma
Witchita Public Schools, Kansas

In September 1965 these nine systems joined DEEP:

Dade County Public Schools, Florida
Des Moines Public Schools, Iowa
Baltimore City Public Schools, Maryland
Quincy Public Schools, Massachusetts
Lansing Public Schools, Michigan
New York Public Schools, New York
Metropolitan Portland Public Schools, Oregon
Chattanooga Public Schools, Tennessee
Richmond Public Schools, Virginia

In September 1966 the following ten school systems were added to the program:

Chicago Archdiocese, Illinois
Duluth, Minnesota
Gary, Indiana
Granite District, Utah
Jefferson County, Colorado
Little Rock, Arkansas
Manhasset, Long Island
New Orleans, Louisiana
Trenton, New Jersey Diocese
Wisconsin State Public Schools

In keeping with the experimental philosophy behind DEEP, schools were selected for both geographic and organizational diversity. The Joint Council provided each DEEP school system with financial grants, consultant services, a library of materials, an exchange of information, and national meetings for project personnel. Each school system appointed a DEEP coordinator, initiated a teacher training program, designated various committees, and developed and shared experimental materials with other DEEP systems.

Among the first priorities for any DEEP school system was the establishment of training programs for teachers. From the beginning, the Joint Council informed participating school systems there was no single pattern for teacher

training, and urged them to innovate. As a result, the training programs represented a diversity of approaches. Aside from the usual college credit courses and scholarship grants to participants, some of the following in-service programs were utilized: schools released teachers for one-half day to discuss economics; teachers were released for one full day of economic education; schools released teachers one afternoon per week for 30 weeks for in-service economic education; schools released teachers one full day to observe and evaluate other economics teachers. The diversity in the training programs in terms of their approach and the degree of participation among DEEP school systems was due primarily to five factors: (1) availability of an economist as instructor, (2) level of funding, (3) level of commitment of administration, (4) level of staff commitment, and (5) the proper timing of in-service work with other activities.

Most of the materials development in the DEEP school systems was directed at preparation of more effective resources for the classroom teacher. In 1964 the Joint Council prepared two working documents to aid in the process of materials development: Teachers Guide to DEEP Part One, Economic Ideas and Concepts; and Teachers Guide to DEEP Part Two, Suggestions for Grade Placement and Development of Economic Ideas and Concepts. These two documents served as valuable resources for the development of economic education materials.*

When DEEP was launched there was no established model for developing economic curriculum materials. Some systems engaged staff writers to prepare guides. Others used committees for this purpose. Some systems used staff writers for preparing working drafts and then used teacher committees and students as refiners or reactors. All the DEEP school systems attempted to construct new materials for teachers, and some prepared materials for students. These materials varied in writing quality, content, and organization. Materials prepared for student use included films, strips, charts, slides, selected readings, games, and evaluation instruments. The DEEP design provided for sharing these materials so that school systems could benefit by having access to the earlier efforts of others. To facilitate this objective, DEEP Materials Development: Status Survey was published annually beginning in January 1967. Table 1 summarizes the materials annotated in DEEP Materials Development: Status Survey, June 1969. This table indicates some measures of DEEP materials

*They have since been revised and republished in paperback book form. Economics in the Curriculum, John Wiley & Sons, Inc., 1970.

development by grade level and subject area. No school system completed a full integrated K-12 materials development program, as originally projected for DEEP.

Table 1

Number of DEEP Curriculum Materials, 1964-1969

General references, bibliographies, and tests		7
Primary level social studies, grades K, 1, 2, 3		29
Intermediate level social studies, grades 4, 5, 6		32
Guides introducing six years of study, K-6		10
Guides introducing twelve years of study, K-12		4
Secondary level U.S. history, including state and local history		46
--Junior High, grades 7, 8, 9	23	
--Senior High, grades 10, 11, 12	23	
Secondary level geography		6
Secondary level world history and regional studies		23
Secondary level economics courses		33
--Courses for students not expected to complete four years of high school: civics and units for introduction to the social sciences	12	
--Capstone courses for seniors	10	
--Units for Problems of Democracy courses	11	
Business education		5
Other areas (e.g., industrial arts)		2
Audio-visuals		70
		267

Some of the curriculum materials developed by DEEP school systems have been nationally disseminated, but much of the materials were not disseminated because the products did not meet the criteria set by the Joint Council in conjunction with DEEP school systems and affiliated councils. The six criteria used were:

1. Economics. The economic principles discussed in the materials must be correct and significant (non-trivial). The National Task Force Report serves as a foundation for economic substance.

2. Education. The materials must conform to sound educational principles. Thus, the material must conform to the ways in which things are effectively learned (psychology of learning) and be couched in vocabulary appropriate to the learner. It must fit the curriculum and the grade level for which it was developed.

3. Transferability. The material must be transferable to other learning situations, to other school systems and to other curricula. It must not be so particularly specialized to a given situation that it has no applicability elsewhere.

4. Originality. The material must show original, innovative quality. While it is unnecessary that any material break a new path with respect to the above cited criteria, it is nevertheless true that material that conforms to those criteria but reiterates readily available publications is less valuable to the program.

5. Evaluation. The material must be proved to have "worked." A crucial test of any material is whether it is in fact used, and whether it results in the changed behavior that the producers sought. The nature of a test for whether something worked will obviously be somewhat different if the material is addressed to (a) social studies supervisors, (b) teachers, (c) students.

6. Style and Format. The materials should be well written with good style and, in addition, the format should arouse interest and suggest the logical development of ideas.

Formative Evaluation

The developers distinguished "internal evaluation" by the Joint Council and by DEEP systems themselves from "external evaluation" by the Psychological Corporation with whom the Joint Council was contracted. Therefore, these terms will be used in this section.

Internal evaluation by the Joint Council included annual and semiannual reports by school systems, and periodic status reports by DEEP staff members and Joint Council regional representatives. These reports were appraised at the Joint Council and the information was used in program improvement. In contrast to routine reporting were particular evaluation measures such as the review of materials continuously undertaken by staff members. An evaluative document highly useful was the Summary of Reviewers' Reactions to Various DEEP Materials prepared by a panel of experts for the Joint Council. The Summary noticed the broad variety of materials, the emphasis on personal involvement

of the student along with the systematic participation of teachers, coupled with appropriate in-service training in many cases. Besides these strengths, certain weaknesses in a few of the materials were clearly spelled out. This summary was circulated to all DEEP coordinators so that they might immediately check on their own work and improve those curriculum materials they were preparing.

Another dimension of evaluation was the large scale administration of the Test of Economic Understanding (TEU). Generally, this test was administered to 10th, 11th, and 12th graders during the initial year of a school system's participation in DEEP and, again, in each of the two succeeding years. Over 60,000 students were given the TEU and many schools administered the test in each of the two succeeding years. The results were used to establish bench marks, so that later testing would permit an assessment of DEEP impact on student learning. Also, some of the school systems designed and conducted evaluation studies to improve the materials they developed.

As mentioned before, the Test of Economic Understanding (TEU) was developed right after the task force report and extensively used in DEEP evaluation. However, the lack of measuring instruments for students below grade 10 and for teachers was a serious problem. To solve this problem, the Joint Council urged several DEEP systems to prepare tests for elementary and junior high school students and worked on the Test of Understanding of College Economics (TUCE). As a result, one test for 3rd grade, one for 6th grade, and the TUCE have been made available. Also, emphasis on evaluation resulted in development of a large number of survey-type instruments. Several school systems made efforts to evaluate the effectiveness of in-service programs through teacher questionnaires.

Dr. Hulda Grobman was hired in 1965 for internal evaluation of DEEP. Dr. Grobman had had prior experience evaluating natural science curriculum projects. One of the things she did was assess some of DEEP's early curriculum guides and testing instruments. She also ran two evaluation institutes for DEEP coordinators and planned a large scale evaluation of the program. However, funds for the large scale evaluation were not obtained and as an alternative the Psychological Corporation was retained to conduct an outside evaluation of DEEP. Dr. Grobman left the Joint Council in 1966 to become Professor of Education at New York University.

In late 1966, the Joint Council began a series of discussions with the Psychological Corporation and later with the Center for Instructional Research and Curriculum Evaluation (CIRCE) at the University of Illinois to plan an external evaluation of DEEP. From 1967 through 1969, the Psychological Corporation, consulting with CIRCE, carried out the external evaluation which had both formative and summative aspects. The results are discussed in the summative evaluation section of this report.

SUMMATIVE EVALUATION

The external evaluation of DEEP conducted by the Psychological Corporation during 1967-1969 called for an examination of DEEP as a system for curriculum change. With this focus, the evaluators considered the overall functioning of DEEP in the schools, and they gave specific attention to the different components of the DEEP design. The major components were: (a) DEEP Coordinator, (b) Curriculum, Policy and Community Advisory Committees, (c) economists serving as consultants, (d) education specialists serving as consultants, (e) state and regional councils, (f) state departments of public instruction, and (g) colleges and universities. Areas in which the Joint Council had established procedures for internal evaluation were not included, such as the extent of teacher training, student and teacher learning, and adequacy of materials developed. Methods for collecting evaluation information included: a problem review of Joint Council correspondence and report files for each DEEP school system; questionnaire responses from DEEP personnel in the systems; evaluation visits by a team of psychologists and educators; and consultation with and judgments by the Joint Council DEEP staff.

The following summary of the evaluation appears in the final report of the Psychological Corporation:

1. The Joint Council was successful in involving major school systems in economic education. There were wide differences, however, in the extent to which systems supported DEEP and changed organization specifically to develop and implement economic education.

2. Participation in the national DEEP program frequently provided unique benefits for school systems. Financial and consulting resources, and contacts with economic education activity in other systems were made available. Being a part of a national program provided leverage for the systems in obtaining additional resources.

3. New economic education materials, attributed by the schools to DEEP, have been developed. Of the materials surveyed, schools indicated that 69% would not have been developed without DEEP. Although no specific evaluation of the materials was made, it was evident that they varied in extensiveness and quality.

4. DEEP systems saw "providing teachers with a background in economics" as their most important goal, and they perceived the providing of economic education experiences to large numbers of teachers as one of the most successful aspects of the project.

5. Affiliated economic education council support (local and regional council support) was important to DEEP schools. Where council support did not materialize, systems were less successful. The contacts which these councils provided for school systems with the business community were unusual, if not unique.

6. In every school visited (model and pilot), expenditures for DEEP were much greater than the inputs of the JCEE to the schools. The JCEE aid frequently enabled schools to obtain additional funds for economic education.

7. Although some systems planned extensive use of materials, materials developed were, in general, not in wide use. Most of the materials were estimated by the schools to be in use by half or fewer of "eligible" teachers and many of the materials were less widely used two years after DEEP than at its close. Only one of the systems visited had completed development of materials throughout K-12. No system visited had completed widespread implementation throughout K-12.

8. Most systems and the Joint Council underestimated the resources required to produce quality curriculum materials. The greatest problem which schools had was working with limited resources. With these limited resources, the three-year time schedule for DEEP was not realistic.

9. Many of the systems, after finishing the third year of DEEP, are continuing economic education activity; and organizational structures which were developed during DEEP are being used.

10. Quality of the school system, the extent of administrative support within the system, and quality of the inservice education program were very highly related to success in DEEP.

Maher (1969) summarized the impact studies of DEEP in an article published in the American Economic Review. From the objectives of DEEP he formulated the following questions about the degree of their attainment: (1) How successful was the program in getting the essential teaching and consulting input from professional economists? (2) How many teachers received instruction in economics and with what effect on their understanding of the discipline? (3) What was the output of curriculum materials developed for teachers and their students? (4) What effects upon student understanding of economics have resulted from the program?

According to the data published in the article, about 75 economists from 40 colleges and universities taught and consulted with the 30 DEEP school systems. In three systems, economists were in full-time residence and in other systems they devoted the academic equivalent of about quarter-time. Nearly 26,000 teachers were instructed in economics. The instruction ranged from a two-semester university course to a summer workshop or three-day institute. The 376 teachers who had courses of a semester's duration and had pre- and posttests with TEU showed significant improvement in economic understanding. These teachers demonstrated nearly as much understanding of economics at the end of their course of study as the teachers and college students reported in other studies.

Three studies regarding the impact of DEEP on the student's understanding in economics are cited in the article. The Pittsburgh public schools had the most tightly structured program for developing and evaluating teacher guides and student readings. For grade 8 through 12, their effort included the testing of an unrevised edition of student readings, the revision of the readings, and further testing of the material after revision. The results are summarized in Table 2. For grade 8 students, both DEEP and control groups made marked gains on the TEU but the students in DEEP gained 23.4 % as against 9.4% gain of control groups. During the stage two experiment, all students used DEEP materials, but the control groups were taught by untrained teachers. All groups showed substantial gains with control groups showing less gain than experimental groups.

Table 2

Evaluation of Materials in Pittsburgh

Group	Number of Students	Average Economics Score*		Change in Score
		Before	After	
Grade Eight (United Stated History)				
Stage One				
4 test groups	178	29.8%	53.2%+	23.4%
5 control groups lacking materials and without special training . . .	183	29.7	39.1 +	9.4
Stage Two				
24 Pittsburgh city teachers	1022	38.0%	52.8%+	14.8%
24 parochial school teachers	1437	41.6	56.4 +	14.8
5 county teachers . . .	392	43.6	57.2 +	13.6
4 "untrained" but otherwise comparable teachers . . .	205	40.5	51.6 +	11.1
Grade Nine (Social Studies)				
Stage One				
7 test groups	300	39.2%	53.2%+	14.0%
7 control lacking materials and without special training	418	39.6	44.8 +	5.2
Stage Two				
8 experimental groups	548	47.6%	62.0%+	14.4%

* For these grades, 8 and 9, an adaptation of the TEU has been used, cutting the number of questions down from 50 to 25.

Similar results were obtained from grade 9 students. The gain in economic scores at stage one for DEEP groups was two and one-half times as great as for control groups. At stage two with revised materials, DEEP groups gained significantly. The results indicated that students learn some economics in history and social studies with untrained teachers and without DEEP materials; they learn more with untrained teachers with DEEP materials; and they learn still more with trained teachers using DEEP materials.

The Wichita school system conducted an evaluation of the effectiveness of instruction in economics in a sample of 208 students. Students in the experimental schools with DEEP materials were of higher socioeconomic background. The mean of the TEU scores for 31 students in the experimental group was 25.16, while the mean for 177 control students was 23.90. The analysis of variance showed that only the composite school variable is of value in explaining test results. It was concluded that the instruction in economics showed little effect on achievement in economics.

The most intensive work on the development of a semester's economic course for grade 12 was carried on in Contra Costa County, California. The work included continuous evaluation of both knowledge and attitude with a variety of instruments including the TEU. Over 1,000 students in 36 sections taught by 18 teachers were given the TEU before and after instruction in economics. Experimental sections were taught the DEEP prepared course and control sections received either the regular economics or no economic course. Table 3 shows the results. Control group C shows significantly more improvement than any of the experimental groups. The students who received economic instruction performed better than those who did not receive any instruction in economics.

Measured results of the impact of DEEP on students' learning in economics are fragmentary and inconclusive. Since the DEEP program has been in effect long enough to cause decided increases in economic understanding and several school systems now have reliable bench marks against which progress may be measured, it is crucial for DEEP school systems and the Joint Council to undertake a large scale well designed summative evaluation of DEEP. The ultimate criterion of success for any education program such as DEEP is its impact on student learning.

Table 3

Test Results Before and After Instruction in Econ 12, Regular Economics, and No Economics, Contra Costa, 1967

Group	Test Form	N	Scaled Score* X
A: Econ 12 (DEEP)	A (Pre)	245	14.7
	B (Post)	211	16.3
	Difference of the Mean		1.6
B: Econ 12 (DEEP)	A (Pre)	68	16.7
	B (Post)	70	19.4
	Difference of the Mean		2.7
C: Other Economics Sections	A (Pre)	81	16.3
	B (Post)	87	21.2
	Difference of the Mean		4.9
D: Other Economics Sections	A (none)	--	---
	B (Post)	428	19.2
E: Econ 12 (DEEP)	A (Pre)	187	14.8
	B (Post)	161	14.9
	Difference of the Mean		.1
F: No Economics	A (Pre)	158	15.5
	B (Post)	125	15.6
	Difference of the Mean		.1

* Mean scores have been scaled to make scores on Form A and B comparable.

DIFFUSION

Agency Participation

The actual diffusion activities were conducted by the Joint Council staff in cooperation with State Departments of Public Instruction and JCEE Affiliated Councils and Centers. Such activities focused on recruiting schools, publication of DEEP materials, serving as the center for information flow, and

publication of articles and reports. The Psychological Corporation and other commercial publishers participated in diffusion activities by publishing some of the DEEP materials but their roles were minimal.

Diffusion Strategy

The following is a generalized account of the approach being taken by the Joint Council in disseminating DEEP throughout the United States. Through reading the literature, convention presentations, discussions with members of the Joint Council or its affiliates, and recommendations of neighboring school systems, interest in the DEEP program in a given community evolves. Then, the school system makes contact with the Joint Council or its affiliates to become a member of the DEEP Cooperating School System. The following procedures are suggested by the Joint Council for school districts interested in joining DEEP programs:

1. Read the Handbook for Curriculum Change and decide whether or not DEEP is needed in your school system.

2. Initiate exploratory talks between your school, Affiliated Council and/or Center for Economic Education.

3. Complete contractual understanding required by Affiliated Council and/or Center Director.

4. Ask your Affiliated Council Director to fill out a "Request for Cooperating School Status." This must be signed by the Director and sent to the Joint Council on Economic Education. If your state has no Affiliated Council, please write to the Joint Council. In states where there is no Affiliated Council, the Joint Council may, at its discretion, accept requests for cooperating school status from other responsible agents. Each school system accepted into the DEEP program will receive the DEEP Handbook for Curriculum Change: Appendices as a grant from the Joint Council. Local DEEP Coordinators will also receive special memoranda concerning innovations in economic education from the Joint Council.

5. After acceptance of Cooperating School Status by the Joint Council, begin DEEP by detailing plans in cooperation with the Affiliated Council and/or Center Director. Some school systems will already be underway due to the pre-planning required by the Council Director.

Actual Diffusion Efforts

Within the developmental phase of DEEP, tentative products were exchanged among the participating school systems. Also, ideas for materials development, teacher training, evaluation, and obtaining community involvement were disseminated through an informational network centered at the Joint Council. When experimental materials were pronounced ready for distribution outside the DEEP network, the Joint Council made the materials available to thousands of teachers through publication of the materials and distribution of the Joint Council's Checklist of materials for the teacher and student.

The Joint Council has published newsletters and progress reports to maintain an open flow of information to those persons interested in the DEEP experiment. DEEP activities have also been the focus of many articles written by the Joint Council staff and DEEP Coordinators for publication in nationally distributed educational and economics journals. Discussions featuring DEEP have been part of many conferences held by national and state educational organizations. The DEEP Phase 2 program, which was a dissemination program, began in 1967. This was an action program of the Joint Council's state and regional affiliates. Local councils established long term working relationships with school systems. Upon recommendation by the affiliated council director, the Joint Council designated the school system as a National Cooperating School and supplied a complete library of economic education materials for teachers, and shared the experiences of the model and pilot school systems through newsletter-type communications. This was the beginning of the DEEP Cooperating Schools Program.

The DEEP Cooperating Schools Program is an extension of the experimental DEEP program. School systems modify the models for curriculum revision developed in the DEEP experiment program, and apply them to their needs. This program has been the main vehicle of DEEP dissemination since 1969.

Product Characteristics and Other Factors Affecting Diffusion

DEEP is not a set of curriculum materials. It is a program for curriculum change in economics. The program has the flexibility for a wide variety of school organization patterns. Because the program evolved through extensive

exploration and experimentation with various schools, teachers, and students, the user will benefit from a variety of teachers' guides and pupil materials, a wide range of suggested formats for in-service programs, and more realistic planning in terms of defining curriculum objectives tailored to the resources of each school system. Many school systems do not have resources to undertake curriculum change by themselves. By adopting DEEP, they can carry out the needed curriculum change, in cooperation with the Joint Council and its regional affiliate.

ADOPTION

Extent of Product Use

There are over 150 school systems working in the Cooperating School Program across the United States. Approximately 7 million students are affected by the program. These students are from all socioeconomic levels and from both rural and urban school districts. Also, the materials developed through DEEP have been used in many schools which are not the DEEP cooperating schools.

Installation Procedures

No special physical arrangements, equipment, or classroom organization procedures are necessary for installing the DEEP program. The need for appointing a DEEP Coordinator and establishing various committees is discussed in previous sections of this report. In-service teacher training is part of the program, but teachers in DEEP schools do not need a particular educational specialty or graduate level preparation in economics.

CRITICAL DECISIONS

The following events are a fair approximation of those crucial decisions made during the five-year history of the Developmental Economic Education Program. For each decision point, the following information is given: the decision required; the alternatives available; the alternative selected; the forces leading to the selection of a particular alternative; and the consequences resulting from that choice.

Although an attempt has been made to present the critical decisions or turning points in chronological order, it must be clearly pointed out that these decisions were not usually made at one point in time, nor did they necessarily lead to the next decision presented in sequence. Many critical decisions were made simultaneously, and required a lengthy period of time. Furthermore, many of the critical decisions led to consequences that affected all subsequent decision making processes.

Decision 1: To Include All Grade Levels, K-12.

The rationale behind this decision was the Joint Council's firm belief in the importance of continuity in economic education. The plan to develop economic curriculum for all grade levels in each DEEP school system turned out to be too ambitious to realize because of the school systems' limited time and resources. However, this decision was partly responsible for the development of economic education programs for the primary and elementary grade levels. DEEP was particularly successful in the elementary levels because the teachers were more willing to admit their lack of economic understanding and they set more reasonable aspirations for their students than high school teachers did.

Decision 2: To Decentralize Materials Development

One of the conclusions drawn from the three-year experiment in 1955-1958 was that curriculum development projects cannot be carried out successfully in a central office distant from the schools. Therefore, it was decided that each DEEP school system would develop its own curriculum materials. As a result, there was a great deal of diversity in the materials developed in terms of their quality and quantity. The special talents needed for outstanding publications were not often found in such a decentralized process, but teachers gained experience and became involved in the project by participating in materials development. Curriculum development became a process of adopting and/or adopting materials prepared elsewhere.

Decision 3: To Schedule DEEP Activities for a Three-Year Period

The developers felt that DEEP objectives could be substantially achieved in three years. Also, the available program resources were small. This led to making DEEP a three-year experiment for each participating school. However, the program required something nearer to five years to complete rather than the three years initially stated. Accordingly, the Joint Council and the school systems extended their time horizons and revised their schedule.

Decision 4: To Place Special Emphasis on Teacher Education

The Joint Council considered knowledgeable teachers as keys to effective curriculum development. But rather than merely giving teachers more economics courses, DEEP in-service programs emphasized increased knowledge of economics blended with improved instructional methods. It was also decided that teachers should have a major role in determining what to teach and how to teach it at particular grade levels. These decisions meant that in-service programs had to be tailored to specific teacher needs at all grade levels K-12.

Decision 5: To Focus on the Curriculum Change Process

The original plan emphasized the development of prototype curriculum but not the development of a prototype process of curriculum change. However, the developers began to see that the main product of DEEP was a process of change and that it was probably the most significant result of the program. Thus, they paid more attention to this aspect of the program, and collection and reporting of information were focused on the process of change. This decision also greatly affected the development and publication of the Handbook for Curriculum Change.

Decision 6: To Set Criteria for Publication of DEEP Materials

It was found that much of the material developed by the school systems was poor in quality. To reduce the proliferation of inadequate materials and to facilitate national dissemination of the best materials, the Joint Council decided to set criteria for publication of materials developed through DEEP. As a result, criteria were established for national distribution and the Joint Council has regularly published the Checklist.

Decision 7: To Use the TEU as a Criterion Measure

The Joint Council considered the Test of Economic Understanding to be the best measure of economic understanding available. They decided to use the test to measure the impact of DEEP on student and teacher learning. Other alternatives available were to develop better tests of economic understanding or to use other means of measuring student and teacher learning in economics. The TEU served its purpose reasonably well, but it became apparent that many important learning outcomes were not adequately measured by the TEU. As a result, developmental works for various tests were undertaken by the Joint Council and some school systems.

Decision 8: To Conduct Evaluation Workshops

The Joint Council realized the lack of evaluation capability of the school systems. To solve this problem, two evaluation workshops were held for DEEP coordinators and teachers. By no means did these workshops break the evaluation bottlenecks. However, participants found their internal assessment proceeding more systematically and with greater sensitivity to the measurement of progress.

Decision 9: To Have an External Evaluation by the Psychological Corporation

The Joint Council wanted to learn, from an outsider's viewpoint, what had happened in the DEEP system. Through a series of conferences between the Psychological Corporation, CIRCE, and the Joint Council an evaluation design emerged and the Psychological Corporation carried out the evaluation in 1967-69. The information obtained from this evaluation enabled the DEEP Cooperating Schools to draw upon the experiences of the original DEEP experimental districts. Also, the "systems" perspective taken in this evaluation encouraged the Joint Council staff to attempt to identify the components of the DEEP process and their functions within the school system.

Decision 10: To Begin the Dissemination Phase in 1967

Since some school systems had completed their three-year projects and there were many school systems interested in joining DEEP, the Joint Council

decided to start the dissemination of DEEP in 1967. So the dissemination actually started before most of the original 30 school systems had completed their projects. The results of an external evaluation by the Psychological Corporation and the Handbook for Curriculum Change were not available. As a result, these early cooperating schools did not get the same sophistication of advice on how to change their curriculum.

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APPENDIX A

LIST OF PRODUCTS AND DEVELOPERS

The following is a list of products for which Product Development Reports have been prepared.

Arithmetic Proficiency Training Program (APTP)
Developer: Science Research Associates, Inc.

The Creative Learning Group Drug Education Program
Developer: The Creative Learning Group
Cambridge, Massachusetts

The Cluster Concept Program
Developer: The University of Maryland,
Industrial Education Department

Developmental Economic Education Program (DEEP)
Developer: Joint Council on Economic Education

Distar Instructional System
Developer: Siegfried Engelmann & Associates

Facilitating Inquiry in the Classroom
Developer: Northwest Regional Educational Laboratory

First Year Communication Skills Program
Developer: Southwest Regional Laboratory for
Educational Research & Development

The Frostig Program for Perceptual-Motor Development
Developer: The Marianne Frostig Center of Educational Therapy

Hawaii English Program
Developer: The Hawaii State Department of Education
and The University of Hawaii

Holt Social Studies Curriculum
Developer: Carnegie Social Studies Curriculum Development Center,
Carnegie-Mellon University

Individually Prescribed Instruction--Mathematics (IPI--Math)
Developer: Learning Research and Development Center,
University of Pittsburgh

Intermediate Science Curriculum Study
Developer: The Florida State University,
Intermediate Science Curriculum Study Project

MATCH--Materials and Activities for Teachers and Children
Developer: The Children's Museum
Boston, Massachusetts

Program for Learning in Accordance With Needs (PLAN)
Developer: American Institutes for Research and
Westinghouse Learning Corporation

Science--A Process Approach
Developer: American Association for the Advancement of Science

Science Curriculum Improvement Study
Developer: Science Curriculum Improvement Study Project
University of California, Berkeley

Sesame Street
Developer: Children's Television Workshop

The Sullivan Reading Program
Developer: Sullivan Associates
Menlo Park, California

The Taba Social Studies Curriculum
Developer: The Taba Social Studies Curriculum Project
San Francisco State College

The Talking Typewriter or
The Edison Responsive Environment Learning System
Developer: Thomas A. Edison Laboratory,
a Subsidiary of McGraw Edison Company

Variable Modular Scheduling Via Computer
Developer: Stanford University and
Educational Coordinates, Inc.